

THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
MARINE RESOURCES OPERATIONS

REPORT FOR THE MONTH OF AUGUST 1963

Tuna - Mission Bay Research Foundation Support

MBRF support has resulted in 218 albacore and 98 bluefin tagged and released this month. The albacore were caught by trolling or rod and reel and tagged during two cruises aboard the DORSAL owned by Elmer Hehr of Newport Beach, and one cruise aboard the SEASCO owned by Robert Sprague of Gardena. The bluefin tuna taken from purse seiners while in a set were marked and released. On August 12 and 13, the DORSAL provided transportation to bluefin grounds where 25 were tagged and released from the net of the commercial seiner SANTA ISABEL and 73 from net sets made by the SOUTHERN QUEEN.

Milton C. Shedd, director of the Mission Bay Research Foundation, paid the fishermen current market prices for all bluefin tagged.

To date we have recovered tags from three albacore and four bluefin.

Cooperative Bluefin Tuna Tagging

Bob Iselin returned to port August 13, after 29 days of bluefin fishing and tagging aboard the seiner ELSINORE chartered by the USBCF San Diego Laboratory. Pete Isaacson then went aboard to tag bluefin for another 13 days. During 42 days fishing, biologists worked as far south as Cape San Lazaro, Baja California and succeeded in tagging 544, despite a poor showing of fish. We have recovered five tagged fish to date from this season's effort. This work is part of a cooperative program designed to provide maximum information about bluefin migrations.

Last year's cooperative cruise already has payed off, with 119 tags returned (12.4%) from the 960 bluefin released.

Sardines

Department biologists predicted that this season's sardine catch would fall between 1,000 and 10,000 tons, with 2,000 tons the most likely value. Thus the season is expected to be no better than last year, when the catch of 2,690 tons was the lowest in the 47 years that records have been kept.

The sardine cannery season opened on August 1 in central California, and 589 tons were landed by the end of the month. This is about the same catch as made in August last year.

Mackerel

The southern California mackerel fleet resumed fishing on August 12 after nearly a month and a half of inactivity due to the lack of cannery orders. Landings through August 31 amounted to 7,112 tons, bringing the yearly total to 37,590, almost 5,000 tons ahead of this time last year.

Artificial Reefs

The artificial fishing reef at Paradise Cove was visited for the first time

in over 17 months. The divers reported over 1,700 fishes of 21 species around the remains of the 20 car bodies. The reef is essentially lost to fishermen because insufficient material remains to attach a marker buoy and the lack of a surface canopy of kelp. During the remaining few months of this reef's life it will harbor these fishes but they will not fill any fisherman's bag.

Three sculpins, tagged underwater by biologist-divers, were returned to the laboratory for examination. One had not moved from its tagging area in 17 months, the others had traveled 6 miles in $3\frac{1}{2}$ months.

Kelp Bass

If the trend continues, and it probably will, 1963 will go down in the books with the best kelp bass and sand bass totals in partyboat history. This record will have been compiled just 10 years after initial management attempts through a size limit or 4 years after the final 12-inch size limit was set.

Abalone - Sea Otters

Reports from commercial abalone divers that sea otters were feeding on abalone in the vicinity of San Simeon, San Luis Obispo County, prompted a special survey of the area. One day of the abalone study research cruise was used to make several dives in the area. Wardens from Region 3 participated in the survey.

A herd of twenty to thirty sea otters was observed. The otters had been feeding in the area. Divers at five locations from San Simeon to just north of Piedras Blancas, a distance of about seven miles, revealed that abalone had been used as food by sea otters. Many recently broken shells were found. The bed of abalone had been harvested by the otters.

The sea otter population consists of herds and individuals scattered from Ano Nuevo Island, Santa Cruz County to Point Conception, Santa Barbara County. The increase in numbers of sea otters in the areas where abalone are harvested by man results in competition not welcomed by the commercial fishery. The complaints are numerous and well founded, but inspections in areas before and after arrival of sea otters indicate that beds were not "wiped out". The "furry destroyers" mentioned in newspaper reports are protected by international law and do relish abalone.

White Seabass

An age analysis of the commercial and sport white seabass fisheries from 1958 through 1961 has been completed. The work completed includes the physical reading and assignment of age of the scale samples and the calculation of a growth in length at age equation using the Von Bertalanffy formula.

AIFRB

Ed Greenwood was elected Vice-Director for the Southern California Chapter of the American Institute of Fisheries Research Biologists.

Publications

Fish Bulletin 122, The Kelp Bass (Paralabrax clathratus) And Its Fishery, by Parke H. Young and Fish Bulletin 123, The California Oyster Industry, by Elinore M. Barrett, were received and distributed.

1. BOTTOMFISH

- A. Flatfish: Dover and petrale sole fishing continues to be good at Eureka, although market limits are still in effect with market conditions regulating the landings for most all species.

Weather hampered trawling from Ft. Bragg to Morro Bay during the latter half of the month, but good catches of petrale sole have been reported from Shelter Cove and Pt. Arena areas. Small landings of petrale and English sole have been made from the Morro Bay and Santa Barbara areas.

English sole fish of the year were collected from Elkhorn slough for studies of early life history and age determination.

- B. Rockfish: Market conditions along with weather have somewhat controlled the landings of rockfish throughout the state. Landings have been generally mixed, with bocaccio and chilipepper the predominant species landed from San Francisco to Santa Barbara.

Two boats from Crescent City, one from Ft. Bragg, and two from Santa Barbara have changed from trawling to albacore fishing.

2. SHELLFISH

- A. Abalone: The annual abalone station cruise was made August 1 to August 21. Two mainland and eight inland stations were checked. Findings are summarized as follows:

- 1) Tagged abalones remain in the same general area of release. However, of the few that had moved an appreciable distance, all had moved away from shore and into deeper water.
- 2) Shell growth of all sizes of abalones was slight, particularly when compared to last year when almost all abalones sampled had added large amounts of new shell.
- 3) Gonad condition indicated that spawning had already taken place among abalones at Channel Island stations, and spawning was approximately one to three weeks away among the San Simeon-Morro Bay abalones.

On August 7 special dives were made in cooperation with divers from the commercial fishery and Wildlife Protection Branch to examine effects of sea otter predation on abalone beds at San Simeon, San Luis Obispo County. Several local newspaper writers were present during this period and the story was featured in the San Luis Obispo Telegram Tribune, August 8, 1963. A herd of 20 - 30 sea otters in the San Simeon area was feeding on abalone. Considerable shell, broken by the sea otters, was found throughout the area and damage to the bed was extensive.

Two tagged abalone were recovered by commercial divers at Morro Bay. One, tagged May 1955, had grown 17 mm; the other, tagged May 1956, had grown 3 mm. Both abalones were recovered in the same area depth where released.

A report on Japanese abalone hatcheries and rearing stations was submitted.

- B. Crab: Data for the crab growth study was summarized for the entire San Francisco area. This completes the separate pictures obtained at Bodega and in the immediate vicinity of San Francisco.

Carapaces were collected for correlation with the growth data. Preparations are being made for the September crab cruise and the pre-season cruise in October.

- C. Oysters and Clams: Oyster production continued at a low level through the month of August. Three producers did not harvest oysters due to poor condition of oysters and lack of demand. Another company voluntarily curtailed production when State Public Health samples revealed small amounts of shellfish poisoning toxin in the oysters. The company resumed production on August 21. With the onset of fall, oystermen are getting prepared to step up production.

Shellfish Investigation personnel made counts and determined weights of packed oysters at Humboldt, Tomales, Drakes, and Morro bays. Average weight of oysters in the round were also obtained. Samples of oysters were taken for determination of dry weight - wet weight relationships of oysters from the various beds.

Examination of European flat oysters in trays at Drakes Bay revealed good survival and growth. These oysters which averaged 61 mm in length and 62 mm width when placed in the trays November 10, 1962, now averaged 72 mm long and 70 wide. Survival of these oysters from Milford, Connecticut is 90 percent. Another lot from a May 1963 shipment shows 90 percent survival and growth in length from 56 mm to 63 mm in three months. It is hoped that a natural set can be obtained from this tray stock in Drakes and Tomales bays.

Survival of Quahog clams planted in Tomales and Drakes Bay during the last part of May appears excellent. These small clams, which averaged 17.5 mm in length when planted at Drakes Bay, have added 2 to 3 mm of shell. The clams average 195 to a pound.

- D. Shrimp: Area A

(Eureka - Crescent City) Shrimp landings totaled 1.4 million pounds through August 19. The catch per hour for this poundage was 502 pounds. Landings from August 1 to 19 totaled 383,925 pounds with a catch per hour of 469 pounds. Eleven vessels were fishing. The Fish and Game Commission, acting upon recommendations of the Department, increased the quota from 1.5 to 2 million pounds, effective August 23.

Area B-1

No effort expended.

Area B-2

Shrimp catches have dropped to a seasonal low with only 12,230 pounds

being landed for nine trips during August. Hourly catch rates averaged 343 pounds per hour, bringing the season average to 827 pounds per hour.

Two of the vessels have discontinued shrimp fishing. The remaining vessel lost its net and does not plan on resuming fishing this season.

Heads-on-shrimp counts averaged 130 to the pound with age group I accounting for 59 percent of the catch.

Area C

No effort expended.

3. PELAGIC FISH

- A. Sardines: The annual prediction of the coming season's sardine catch was presented at a meeting of the Marine Research Committee at La Jolla on August 13. Doyle Gates presented the Department's prediction that the catch would fall somewhere between 1,000 and 10,000 tons, with 2,000 tons the most likely value. Thus, the season is expected to be no better than last year, when the catch of 2,690 tons was the lowest in the history of the fishery. The reasons for the expected poor season include:

- 1) The lack of any evidence of a good, let alone a strong, year class entering the fishery.
- 2) The low level of the "northern" sardine stock noted on last year's research cruises in Mexico and California.
- 3) The absence of unusually warm sea surface temperatures which might cause quantities of sardines from the "southern" stock to move into our waters.

The sardine cannery season opened on August 1 in the Monterey area, and 589 tons were landed during the month. Over half of this total came from Monterey Bay, the remainder was caught off Point Lopez and San Simeon. The season started out about the same as in 1962, when 600 tons had been landed by the end of August.

Sardines ranged from 213 to 275 mm in length. Less than half of the females were gravid, with many eggs still in a very early stage of development.

The cannery season opens on September 1 in southern California. No price has yet been agreed on, but price negotiation meetings are scheduled for September 4th. In any case, no fishing will be done during the first week of September because of the light-of-the-moon period.

San Pedro fish market landings of sardines amounted to only 5 tons during August.

- B. Mackerel: The southern California mackerel fleet resumed fishing on

August 12 after nearly a month and a half of inactivity due to the lack of cannery orders. Landings through August 31 consisted of 5,403 tons of jacks and 1,709 tons of Pacifics. This brought the combined mackerel landings since January 1 to 37,590 tons, almost 5,000 tons ahead of last year at this time. Cannery limits of 20 tons were in effect for most of the month.

San Pedro fish market landings were 56 tons of jacks and 19 tons of Pacifics.

In northern California, 209 tons of jack mackerel were delivered to the canneries at Monterey and Moss Landing. About one-third of this total was caught in Monterey Bay, the remainder was caught off San Simeon and trucked north from Morro Bay.

- C. Anchovies and Squid: No landings were reported during August.
- D. Live Bait: The Los Angeles-Long Beach harbor area continued to supply a large portion of the live bait used in southern California. San Diego, Oceanside, Newport, and Redondo Beach bait boats often found it necessary to come to this harbor for bait. Some bait was taken off Oceanside, Newport, and Playa Del Rey during the latter part of the month. At Port Hueneme bait became scattered during late August, while at Morro Bay anchovies were abundant all month.

Live bait fishing has gained more public esteem in the San Francisco area. Anchovies, herring, and shiner perch are all used for live bait there. Anchovies caught in the bay form the bulk of the bait catch for most of the year, with herring becoming more important in the fall.

- E. Aerial Survey: Poor visibility limited this month's flights to the afternoons on three days. The area from Point Piedras Blancas to the U.S.-Mexican border was covered. Three-hundred and forty-nine anchovy and four jack mackerel schools were counted. The schools were well distributed with fish seen in all major scouting areas. The bait boat ERM TOO, based at San Diego, was seen completing a set just off the Coronado Strand. In general the bait fleet has been having difficulty in obtaining bait in this area.

The water was the clearest seen so far this year. Red tide was not extensive and was confined to small, dense patches in localized areas.

- F. Sea Survey: The ALASKA conducted a 21 day cruise to southern Baja California between August 6 and 26. This was the first of four fall cruises scheduled to survey the pelagic environment in Baja California and California. This was also the first cruise where a midwater trawl became the principle sampling tool and the traditional night-light blanket-net gear became the supplementary tool, relegated to checking trawling results and obtaining live fish for special studies.

The midwater trawl produced highly satisfactory results in capturing representatives of the species that were in an area. The trawl was far superior to the night light in locating anchovy concentrations, and also produced better results with respect to sardines and jack

mackerel.

This year's survey noted no significant change in the sardine population. The 1963 year class appears to be about the same strength as the weak 1962 year class in the area surveyed. Adults were taken only in moderate numbers, and few schools were seen during night scouting.

Anchovies were present in large numbers and were by far the most abundant pelagic species. Large, frequent catches with the midwater trawl plus many visual sightings indicated a large anchovy population was in the area. Jack and Pacific mackerel were taken frequently but only in small amounts. Catches of both species contained a preponderance of young fish, indicating at least a moderately successful spawning in this area.

The ALASKA departs on September 6 for the second survey cruise.

4. TUNA

- A. Albacore: Commercial landings were heavy at southern California ports early in the month but tapered off during the past two weeks. Trollers moved north of Pt. Conception, as is typical for August, and found good fishing at least to Coos Bay, Oregon. The live-bait fleet continued to fish around the Showboat area (100-150 miles northwest of Guadalupe Island) and off southern California. The price per ton continued at \$300. with trucking charges varying from \$10 to \$40 per ton at San Diego and Morro Bay respectively. Total fleet landings through July were only one-fourth those for the same period last year.

The sportfishery was strictly hot and cold. A few very good days followed by periods of poor fishing, lasting until new concentrations were located. Landings by sportfishermen were approximately 60 percent behind those of a year ago.

Three tagged albacore were recovered this month. All had been tagged locally around 60-mile Bank and Catalina Island during July through cooperation with the Mission Bay Research Foundation aboard the DORSAL. Two fish were recovered by sportfishermen and one in the commercial fishery. All had moved in a southerly direction from 30 to 200 miles during periods of 19 to 38 days at liberty.

In an effort to speed the processing of log book data, all logs through July have been forwarded to the biostatistical section for key punching and computer editing.

- B. Bluefin: August seining took place off Cape Colnett, 60-mile bank, 43 fathom bank, and a small bluefin "run" occurred off the east end of Santa Catalina Island. Local fish weighed 10-15 pounds, while Cape Colnett bluefin were 20- to 25-pounders. At month's end, a "run" was starting near San Martin Island, Baja California.

Age and growth studies are showing good progress; our work is on a current basis, with over 500 scales having been read so far. These studies reveal the 1963 fishery, to date, is comprised almost exclusively

of one- to four-year-old bluefin.

Bob Bell, Chairman of the Fourteenth Pacific Tuna Conference, has prepared his agenda and mailed it to all conference members. The meeting will be held September 30, to October 2, at the UCLA Regional Conference Center, Lake Arrowhead.

- C. Miscellaneous: On August 30, purse seiners "wrapped" a lot of black skipjack, Euthynnus lineatus, and bullet mackerel, Auxis thazard off San Clemente Island. This is an unusual event, indicating considerable sea surface warming in the area.

5. SPORTFISH

- A. Party Boat: Southern California partyboat anglers are enjoying better local fishing than last year. Through July, barracuda, bonito, yellowtail, kelp bass and sand bass showed slight to marked improvement in catch. If present conditions continue through September and into October, 1963 will be the greatest kelp and sand bass year on record by a wide margin. The catch of these 2 species, 798,000 fish, ranks next to the top year, exceeded only by the 1954 total of 876,000 bass. Interestingly, Fish Bulletin 122 contains a prediction of the present good fishing. More years of outstanding returns should follow, according to predictions.

Striped bass fishing has also shown a remarkable improvement to date. Indications are that the healthy striped bass population goes for live-bait in a big way -- increasing angler success appreciably. The use of live-bait is becoming widespread in San Francisco Bay, but not so commonly in the delta area.

Partyboat catch figures, accumulated through July of 1962 and 1963, compare as follows:

	<u>Through July</u>	
	<u>1963</u>	<u>1962</u>
Kelp & Sand Bass	797,856	458,042
Rockfish	575,893	481,698
Bonito	349,926	236,552
Barracuda	295,150	246,370
Calif. Halibut	71,392	84,536
Salmon	45,558	51,842
Albacore	35,926	89,486
Yellowtail	34,429	16,347
Striped Bass*	17,273	11,673

*Ocean and San Francisco Bay only.

A summary of diving effort from charter boats is being prepared. A 9-page manuscript discussing some effects of sewer effluent on marine life has been accepted for a future issue of California Fish and Game.

- B. Ocean Fish Habitat Development (DJ F17R7): The Paradise Cove car body reef was visited this month, the first check since March 1962, when the marker buoy was found adrift. The cars have disintegrated until only small pieces of metal protrudes from the sand. The marker buoy has not been replaced; there is not enough material left for its anchorage. Despite this, the low rubble apparently remains attractive to local fishes. Over 1,700 fishes of 21 species were observed during the dive. These included sand bass, kelp bass, California sheephead, sculpin, perches and several species of rockfish.

The "cars" were covered with many small algae, but relatively few giant kelp plants. These various algae are all less than 4 feet high, so there is no surface kelp to aid fishermen in locating the reef. Therefore this reef is lost to the sportsmen and becomes merely a hidden haven for fishes.

Three sculpins tagged underwater by MRO divers, were brought into the laboratory for a check on their condition. One, tagged on the concrete shelter component of the Malibu WCB reef, had not moved from this reef in the 17 months it was at liberty. The other two, tagged at the Hermosa Beach WCB reef, were caught by a commercial fisherman $6\frac{1}{2}$ miles off Manhattan Beach. They had moved offshore about 6 miles in $3\frac{1}{2}$ months.

Project personnel assisted Region 5, during a kelp survey at Corral Beach, near Malibu, August 7.

Two days, August 9 and 21, were spent off Point Loma, observing sea urchin eradication using calcium oxide. This method appears quite effective in killing urchins, however it does have some effect on other marine animals. The main effect is relaxing the animals; increasing their vulnerability to predation.

Turner represented MRO in a meeting between the Resources Agency, Region 5, Southern California Edison Company and Marine Advisors; discussing a biological survey and surveillance of the area around the proposed San Onofre steam generating plant.

Assisted other biologists and Region 5 wardens with an underwater Pismo clam census, Point Dume, August 26.

- C. Blue Rockfish Management Study (DJF19R3): Routine sampling of the party boat and skiff fisheries was continued at Bodega Bay, Princeton, Santa Cruz, Monterey, Morro Bay, and Avila. Skindivers and shore fishermen were sampled in the Monterey area.

The analysis of the blue rockfish stomachs was completed and work was begun compiling the data. The growth study got underway with samplers collecting scales and weight-length data of blue rockfish at Monterey.

Tagging of all species caught at several reefs off Santa Cruz and Monterey was begun. It is hoped that this study will shed light on the migratory habits of most of the sport caught species that frequent these reefs.

Twenty-seven tagged blue rockfish, two copper rockfish were recovered

from Monterey, and two blue rockfish tags were returned from Morro Bay. One of the blue rockfish recovered off Monterey had been at liberty over twenty-three months, and had moved approximately four miles from point of release.

- D. Southern California Marine Sport Fish Survey (DJ F20R): Our sampling of piers and jetties has continued throughout the month in an orderly fashion. The structures for the third and final 4-month period have been drawn in accordance with the sampling plan. The seasonal aids have received their assignments to sample the structures in this period from September through December.

An age analysis of the commercial and sport white seabass fisheries from 1958 through 1961 has been completed. Preliminary scrutiny indicates that a close relationship exists between age and length frequencies (Peterson Method).

The manuscript concerning a study of the barracuda commercial and sport fisheries is progressing.

6. SPECIAL PROJECTS

- A. Southern California: Work on the Long Beach-Los Angeles Harbor pollution study (test blocks) was nearing completion.

Routine trawling as part of the Santa Monica Bay Pollution Study was conducted on August 7.

The refined data from five years of the Pollution Trawling were submitted to the Biostatistical Section after discussions were held on the type of reports needed.

The fishing pier under construction at Imperial Beach was visited and consultations held with the City Manager, Recreation Director, and construction supervisors regarding the habitat improvement planned around the pier. This pier is being jointly financed by Imperial Beach and the Wildlife Conservation Board. Plans were drawn up for the rock installation and discussions held with prospective bidders.

Planning was begun on the habitat improvement to be installed around the Los Angeles-W.C.B. fishing pier at Venice as drawings of pier construction were received from Los Angeles.

Plans were nearing completion for the installation of two artificial reefs near Huntington Beach. Financing is coming from Orange County fine monies. Installation has been tentatively set for the first week in September.

The hearings held in Los Angeles by the California Power Commission on the San Onofre Nuclear Power Plant were attended. Very little opposition has developed to a plant at this site.

- B. Northern California: The thermograph at Drakes Estero was removed and returned to the shop for repairs. A new tower was constructed about a

mile from the old location and another thermograph installed and put into operation to obtain further records of value in shellfish culture studies.

August 8 Mr. Oliphant of the Terminal Island laboratory visited the Menlo Park laboratory to discuss anchovies in San Francisco Bay.

August 20 Dr. Earl Herald accompanied the NAUTILUS on a San Francisco Bay Study cruise.

7. BIOLOGICAL NOTES

Eleven fishermen contributed miscellaneous fish specimens to CSFL for identification or other reasons during the month. None of these was a rare occurrence; however, several were interesting for one reason or another. An opaleye speared at Laguna Beach was the first golden colored opaleye ever reported (this is an albinistic phase). A 33-inch broomtail grouper netted at Pt. Conception was nearly 100 miles north of their previously recorded range. A pomfret caught by an albacore fisherman was the biggest (by several inches) pomfret we have seen yet and a spotted snake eel hooked off the Redondo Breakwater was considerably heavier than any previously reported.

On August 13 a big eyed thresher was netted off Mission Bay and turned over to Scripps Institution of Oceanography. This was only the second big eyed thresher from our coast, and interestingly, was caught less than a month after the first and by the same fisherman!

On August 26, MRO biologists and Region 5 wardens carried out a cooperative underwater Pismo clam census at the Pt. Dume end of Zuma Beach. (Previously, Pismo clams were censused a couple of miles north of Pt. Dume.) This latest census revealed an abundance of large clams to within a few feet of the rocky reef extending offshore from Pt. Dume. In one place, 23 legal sized clams were concentrated within a one-meter square area. As at the north end of Zuma Beach, the main bed of clams is in 15 to 25 feet of water. At these depths, almost all clams are of legal size and almost all are older than 16 years (4 of 100 clams were smaller than $4\frac{1}{2}$ inches and 3 of the 100 were younger than 16). In fact, 83 of the 100 clams sampled exceeded 5 inches in length, the largest being $6\frac{1}{4}$ inches. As pointed out in our June monthly report, more than 2 million harvestable clams are to be found in this bed off Zuma Beach. The diving public should be encouraged to utilize this resource during the open season.

On August 28 nearly a ton of fish, mostly queenfish and various embiotocid perches, was killed during routine heat treatment at the Scattergood Steam Generating Plant, Santa Monica Bay. This kill was slightly heavier than past ones because the velocity cap on the intake pipe was being repaired for several weeks prior to heat treatment. Thus water (and fish) was

being taken into the plant via the outflow pipe which has no cap over it for inhibiting fish egress.

Dr. T. Poulter of Stanford Research Institute and Dr. R. Orr of California Academy of Sciences reported two sea otters were observed at Ano Nuevo Island during a recent census of marine mammals on the island.

The following rare and aberrant specimens were received at Eureka during August:

- 1) Moroteuthis robusta (giant squid) 2-foot and 9-foot specimens were taken from Redding Rock and Mack Arch.
- 2) Caulolatilus princeps (ocean whitefish) one specimen 288 mm s.l. from Cape Blanco, Oregon - a northern range extension.
- 3) Microstomus pacificus (dover sole) one sinistral and one melanistic specimen from Oregon and a xanthochromic one from Crescent City.

8. BIOSTATISTICS

A. Data Processing

Regular Reports:

The following statistical reports of the June, 1963, landings were completed:

- 1) Boat Check Listing - This report lists the fish receipts for each boat.
- 2) Place of First Landing - Records landings of each species in each port.
- 3) Geographic Origin - Tabulates landings of each species caught in waters of California, North and South of State boundary.
- 4) Cumulative Species - Shows landings of each species from January 1, 1963, to date.
- 5) Dealer Report - The receipts of taxable fish for each dealer.

The following reports were prepared from the July party boat logs:

- 1) Number of each species caught by month.
- 2) The catch of each species within a port-month with number of anglers and number of boats for each month and port.
- 3) Work sheets for preparing the party boat fleet catch letter.

- 4) Albacore catch summary (two reports).
- 5) Salmon catch summary.

The letter showing the party boat fleet catch for the month of July was distributed.

The cannery and processor reports were completed and the tuna letter was written and distributed.

The following reports were prepared from the June trawler fish receipts:

- 1) Landings by origin and month.
- 2) Landings of each species for each month.
- 3) Listing of fish receipts for each boat.

Annual reports summarizing the 1962 landings were completed for the following species:

- | | |
|---------------------------|-----------------------|
| 1) Albacore | 6) White Sea Bass |
| 2) Bonito | 7) California Halibut |
| 3) Bluefin | 8) Yellowtail |
| 4) Yellowfin and Skipjack | 9) Herring |
| 5) Barracuda | 10) Rock Crab |

Special Reports:

An annual halibut report of the 1962 landings was prepared for the Pacific Halibut Commission.

Reports summarizing training of Department of Fish and Game personnel for the fiscal year 1962-63 were tabulated and forwarded to the training officer, Ned Dollahite.

The Pacific and jack mackerel landings during the period January, 1962, through June, 1963, were summarized for the Pelagic Fish Investigation.

Miscellaneous animal food landings during 1961 were summarized for Ed Best of the Trawl Investigation.

A computer program that estimates the catch per days fishing for each temperature during a month was executed using the 1961 albacore "log fleet" data. This program is part of a series of programs written to edit and analyze the albacore fishing log data.

Work in Progress:

Progress is being made on the 1962 marine fish catch bulletin. Historical catch records are being coded for machine processing.

July market and August cannery fish receipts are being edited.

Work was started on a series of reports summarizing the Santa Monica Bay Trawl Study Data for John Carlisle of Special Projects.

Field:

Field contacts were made from San Diego to Fort Bragg. Most of the visits were necessary to resolve questions concerning fish receipts or processing reports.

A new license agent in Fort Bragg was instructed on the proper procedure for issuing commercial fishing licenses and boat registrations.

One day was spent flying with Dick Wood of the Pelagic Fish Investigation. Aerial photographs were taken of some of the estuaries and tidal mudflats between Los Angeles and San Diego.

B. Technical Assistance and Biometrical Analysis

Statistical and Mathematical Analysis:

A meeting was held at Menlo Park with Walt Dahlstrom, Tom Jow and Mel Odemar to assess the extent to which the California commercial shrimp conforms to the basic assumptions of various population models and to evaluate existing data.

Literature on population models was investigated.

Computers:

A von Bertalanffy growth curve was fitted for white sea bass.

A program to determine the relationship in the albacore fishery between length of boat and/or experience of the skipper and fishing power of the boat is about 70% completed. Some assistance was given Jensen, Tomlinson and Chadwick while they were running Univac 1107 programs at Computer Sciences Corporation.

9. RESEARCH VESSELS

ALASKA:

Vessel conducted a 22 day Pelagic Fish cruise (63A5) in the waters off lower Baja California to determine the amount of recruitment for this year's sardine spawning and to collect live sardines for population studies.

N.B. SCOFIELD AND MOLLUSK

Both vessels were engaged in a 21 day abalone study off central and southern coastline and the Channel Islands.

NAUTILUS:

The vessel was engaged in three days of salmon study off San Francisco and ten days of Delta and San Francisco Bay Study.

10. MISCELLANEOUS

A. Meetings:

- August 8 - Roedel and Fitch met with Dillinger in Sacramento to discuss budgetary problems associated with technical publications. During the next two years at least money will be very tight; we hope to take care of part of the anticipated Fish Bulletin backlog by charging federal aid printing costs to DJ funds.
- August 8-9 - Cogswell, Biostatistics, Dahlstrom, Jow and Odemar, Shellfish Investigation - discussion of shrimp population models.
- August 12 - Roedel and Gates participated in an orientation meeting held at Scripps for new members of the MRC.
- August 13 - MRC meeting, La Jolla. Roedel, Gates and Heimann participated.
- August 14 - Roedel attended a meeting at Scripps concerned with the state planning program as it relates to marine resources.
- August 19 - Jow met with Robinson and Magill of the Oregon Fish Commission on shrimp.
- August 26 - Carlisle, Imperial Beach city officials, on fishing pier habitat improvements.
- August 28 - Carlisle, California Power Commission, L.A. - San Onofre Nuclear Power Plant.
- August 28 - Clemens attended a Salary Survey Committee Meeting.

B. Talks:

- August 2 - Pinkas gave a talk on fish identification to a skin-diving club, The Watermasters.
- August 5 - Slides on fish identification and discussion of blue rockfish management project at a meeting of Oakland "Y" Divers (Gotshall).
- August 7 - Young presented "Fish In The Sea" and discussed Department of Fish and Game marine activities in general with 40 members of the Southern California Rod & Reel Club. Particular interest was expressed in the Departmental position in regard to the opening of parts of Santa Catalina Island to net fishing.
- August 19 - Frey gave a talk to the Glendale Anglers Club (40 members) about the current albacore season.

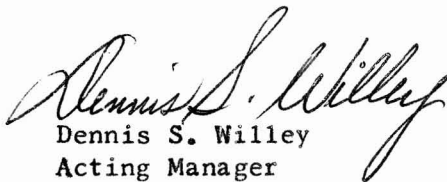
August 28 - Movies and discussion of abalone program with the Seafarers Diving Club, San Francisco was given by Cox.

C. Visitors:

August 27 - E.A. Power, Chief, Branch of Statistics, U.S. Fish and Wildlife Service, Washington, D.C.

D. Personnel:

August 30 - Doyle E. Gates, promoted, Marine Biologist IV, Marine Resources Branch, Sacramento.


Dennis S. Willey
Acting Manager

DSW:sg

9-4-63/85